STUDY OF THE PROCESSES IN THE ORGANS OF THE URINARY SYSTEM

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Annotatsiya: Ushbu maqolada ayirish organlaridagi jarayonlar, inson organizmida qanchalik muhim o‘rin egallashi va ularning qanday ishlashini bilmaslik natijasida rivojlanishi mumkin bo’lgan kasalliklar haqida so‘z boradi.

Kalit so‘zlar: ayirish sistemasi, buyrak, faza, filtratsiya, reabsorbsiya, mochevina, nefrit, sistit, buyrak toshi.

Abstract: This article talks about how important the processes that occur in the urinary system are, in the human organism and the diseases that may develop as a result of lack of knowledge about how they work.

Key words: urinary system, kidney, phase, filtration, reabsorption, urea, nephritis, cystitis, kidney stone.

What is the urinary system itself? Proteins, fats, carbohydrates, water, salts are absorbed from the gastrointestinal tract into the blood and go to the liver, where after it is cleared of unnecessary (toxic) substances, it is distributed again through the blood to all tissues and cells of the body. As a result of metabolism nutrients are oxidized and decomposed in the cell. Oxidization leads to processing toxic products (uric acid, residual nitrogen, urea, creatinine, such as carbon dioxide) is formed. These harmful waste substances pass from the cells into the blood and are excreted through the excretory organs. All parts in the urinary tract should work in the correct order, together for normal urination to occur.

The organs of the urinary system include the **kidneys**, **renal pelvis**, **ureters**, **bladder** and **urethra**.

KIDNEYS. Two bean-shaped organs, each containing about 1 million nephrons. They located just below your rib cage, one on each side of your spine. Every day, your kidneys filter about 120 to 150 quarts of blood to remove wastes and balance fluids. This process produce about 1 to 2 quarts of urine per day.

URETERS. Thin tubes of muscle that connect your kidneys to your bladder and carry urine to the bladder.

BLADDER. A hollow, muscular, balloon-shaped organ that expands as it fills with urine. The bladder sits in your pelvis between your hip bones. A normal bladder acts like a reservoir. It can hold 1,5 to 2 cups of urine Although , you do not control how your kidneys function, you can control when to empty your bladder. Bladder emptying is known as urination.

URETHRA. A tube located at the bottom of the bladder that allows urine to exit the body during urination.

Kidney and urinary system parts and their functions:

i. Remove waste products and medicines from the body.
ii. Balance the body's fluids.
iii. Balance a variety of electrolytes.
iv. Release hormones to control blood pressure.
v. Release a hormone to control red blood cell production.
vi. Help with bone health by controlling calcium and phosphorus.

Formation of urine in the kidney. Formation of urine in the kidney

divided into two phases (periods). The first period is the filtration period

consists of the formation of primary urine. In this case, the artery in the nephrons

the liquid part of the blood is filtered through the capillaries and into the nephron space

(capsule). The passage of this process depends on high pressure in the capillaries and low pressure in the capsule.

The composition of primary urine is close to the composition of blood plasma. In it

not only protein. Because it does not filter through the walls of capillaries. The primary urine in the capsule is clavate goes to the canals. It is primary through the wall of the canals of sugar and amino acids, water and mineral salts in urine most of it, i.e. 98.5-99.0%, is reabsorbed into the veins. This is called the reabsorption process. This is the formation of urine is the second period. Urine remaining in the tubules is secondary it is called urine, it contains residual nitrogen, urea, creatinine such substances, a certain amount of salt and water. Continuous urine filtration in adult human kidney nephrons as a result, an average of 100 liters of primary urine is produced per day. 98.5-99 liters of it go to the blood through the wall of the clavicular tubules reabsorbed, and the remaining 1-1.5 liters as secondary urine is taken out.

What diseases occur as a result of damage to the organs of the urinary system?

Chronic kidney diseases is a progressive condition that effects >10% of the general population worldwide, amounting to >800 million individuals

Nephritis. (neh-FRY-tis) A condition in which the tissues in the kidney become inflamed and have problems filtering waste from the blood. Nephritis may be caused by infection, inflammatory conditions (such as lupus), certain genetic conditions, and other diseases or conditions.

Cystitis. Cystitis is inflammation of the bladder, usually caused by a bladder infection. It's a common type of urinary tract infection (UTI), particularly in women.

Cystitis is usually caused by bacteria in the lower urinary tract. Most often—in 95% of cases—the bacteria Escherichia coli is the cause. Sometimes, when bacteria comes into contact with the urethra, it travels to the bladder, leading to cystitis.

Cystitis signs and symptoms may include: A strong, persistent urge to urinate. Pain or a burning feeling when urinating. Passing frequent, small amounts of urine.

Treatment includes drinking plenty of water and taking urinary alkaline and antibiotics. Regular and severe attacks need to be investigated and treated by your GP.

Kidney stones. Kidney stones form in your kidneys. As stones move into your ureters — the thin tubes that allow urine to pass from your kidneys to your bladder — signs and symptoms can result. Signs and symptoms of kidney stones can include severe pain, nausea, vomiting, fever, chills and blood in your urine. Around 1 in every 750 people is born with a single kidney. Otherwise a kidney may have been removed due to disease or donation. Having a single kidney does not affect your lifespan and exercise, and be aware of activities that may cause injury to your kidney.

How can you keep your urinary tract healthy?

You can help keep your urinary tract healthy by following some basic tips. Drink enough liquids, especially water. If you’re healthy, try to drink six to eight 8-ounce glasses of liquid each day. You may need to drink more if you have kidney stones or bladder stones. At least half of your liquid intake should be water. You might need to drink less water if you have certain conditions, such as kidney failure or heart disease. Ask your health care professional how much liquid is healthy for you.

Keep your bowels regular. Regular bowel movements are important to your bladder health. You can promote both bowel health and bladder health by making healthy food choices. You can keep your urinary tract healthy by sticking to an eating plan that includes lean proteins, whole grains, fiber-rich breads, nuts, colorful berries, fruits, and vegetables to promote regular bowel movements.

living a healthy lifestyle. Get regular physical activity, limit your alcohol intake, cut down on caffeinated food and drinks, and don't smoke.

Go whenever you need to. Often, people will hold their urine because it's not a good time to go to the bathroom. However, holding in your urine for too long can weaken your bladder muscles and make it harder for your bladder to empty completely. Urine left in your bladder can allow bacteria to grow and makes you more likely to develop a urinary tract infection (UTI). Develop healthy bathroom habits. Take enough time to fully empty your bladder when urinating—don't rush it. Stay in tune with your body. Pay attention to how often you feel the urge to urinate. Take note if you need to urinate more often than usual, if your urine leaks, if it becomes more difficult for you to begin urinating, or if you feel you're not able to completely empty your bladder. These changes may be early signs of different urinary tract problems. Talk with your health care professional if you notice any of these signs. You may be able to prevent a condition from becoming more severe if you get help early on. Do pelvic floor muscle exercises. Pelvic floor exercises, also called Kegel exercises, can keep your pelvic floor muscles strong and maintain healthy bladder and bowel function. Both men and women can benefit from pelvic floor muscle exercises

Treatment for urinary problems depends on the cause. Your doctor may treat an infection with an antibiotic. Or you may need a procedure to help a kidney stone pass.

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